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Flood Boundary and Floodway Map Index
Flood Boundary and Floodway Map

PUBLISHED SEPARATELY:

Flood Insurance Rate Map Index
Flood Insurance Rate Map

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FLOOD INSURANCE STUDY

MAGOFFIN COUNTY,
UNINCORPORATED AREAS,
KENTUCKY

1.0 INTRODUCTION

1.1 Purpose of Study

This Flood Insurance Study investigates the existence and severity of flood hazards in the Unincorporated Areas of Magoffin County, Kentucky, and aids in the administration of the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973. This study has developed flood risk data for various areas of the community that will be used to establish actuarial flood insurance rates and assist the community in its efforts to promote sound flood plain management. Minimum flood plain management requirements for participation in the National Flood Insurance Program are set forth in the Code of Federal Regulations at 44 CFR, 60.3.

In some states or communities, flood plain management criteria or regulations may exist that are more restrictive or comprehensive than the minimum Federal requirements. In such cases, the more restrictive criteria take precedence and the state (or other jurisdictional agency) will be able to explain them.

1.2 Authority and Acknowledgments

The sources of authority for this Flood Insurance Study are the National Flood Insurance Act of 1968 and the Flood Disaster Protection Act of 1973.

The hydrologic and hydraulic analyses for this study were performed by the U.S. Army Corps of Engineers (COE) (the Study Contractor) for the Federal Emergency Management Agency (FEMA), under Inter-Agency Agreement No. EMW-E-1153, Project Order No. 1, Amendment No. 10. This study was completed in June 1984.

1.3 Coordination

Streams requiring detailed study were identified at a meeting attended by representatives of the Study Contractor, FEMA, and Magoffin County in May 1983.

On January 28, 1985, the results of this Flood Insurance Study were reviewed and accepted at a final coordination meeting attended by representatives of the Study Contractor, FEMA, and the community.

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2.0 AREA STUDIED

2.1 Scope of Study

This Flood Insurance Study covers the unincorporated areas of Magoffin County, Kentucky. The area of study is shown on the Vicinity Map (Figure 1). The incorporated areas within the county were excluded from this study.

Flooding caused by overflows from the Licking River, State Road Fork, Burning Fork, and Mash Fork was studied in detail. The Licking River was studied from 1,980 feet downstream of Gifford Road to 2.87 miles upstream of State Route 1090; Burning Fork was studied from 0.26 mile downstream of Ward Road to 1.0 mile upstream of Mountain Parkway; State Road Fork was studied from 1,214 feet downstream of 4th Street to Bear Branch Road; and, Mash Fork was studied from the mouth to 0.60 mile upstream of the mouth.

Approximate analyses were used to study those areas having a low development potential or minimal flood hazards. Flooding on the outer reaches of the Licking River was studied by approximate methods.

The areas studied were selected with priority given to all known flood hazard areas and areas of projected development or proposed construction through June 1989. The scope and methods of study were proposed to and agreed upon by FEMA and Magoffin County.

2.2 Community Description

Magoffin County, located in eastern Kentucky approximately 75 miles east of Lexington, contains a total land area of 303 square miles. Salyersville is the largest city within Magoffin County. Magoffin County is bordered on the north by Morgan County, on the east by Johnson and Floyd Counties, on the south by Knott and Breathitt Counties, and on the west by Wolfe and Morgan Counties. In 1980, the population of Magoffin County was reported to be 13,515 (Reference 1).

Coal mining is the largest enterprise and is widespread throughout the area. Most of the people in the area farm, generally for home use.

Practically all of the area was once wooded, but most of the virgin timber had been removed by the early 1920s. Approximately 80 percent of the acreage is now in second-growth trees.

The Licking River flows in a northwesterly direction and is located in the central portion of the county. State Road Fork and Burning Fork are tributaries to the Licking River within the Salyersville corporate limits. State Road Fork flows in a southwesterly direction, while Burning Fork flows in a northwesterly direction. Mash Fork, a tributary to State Road Fork, flows in a westerly direction.

Magoffin County has a continental climate that varies widely in temperature, ranging from 100 degrees Fahrenheit (F.) in summer to below 0 degrees F., during the winter months.

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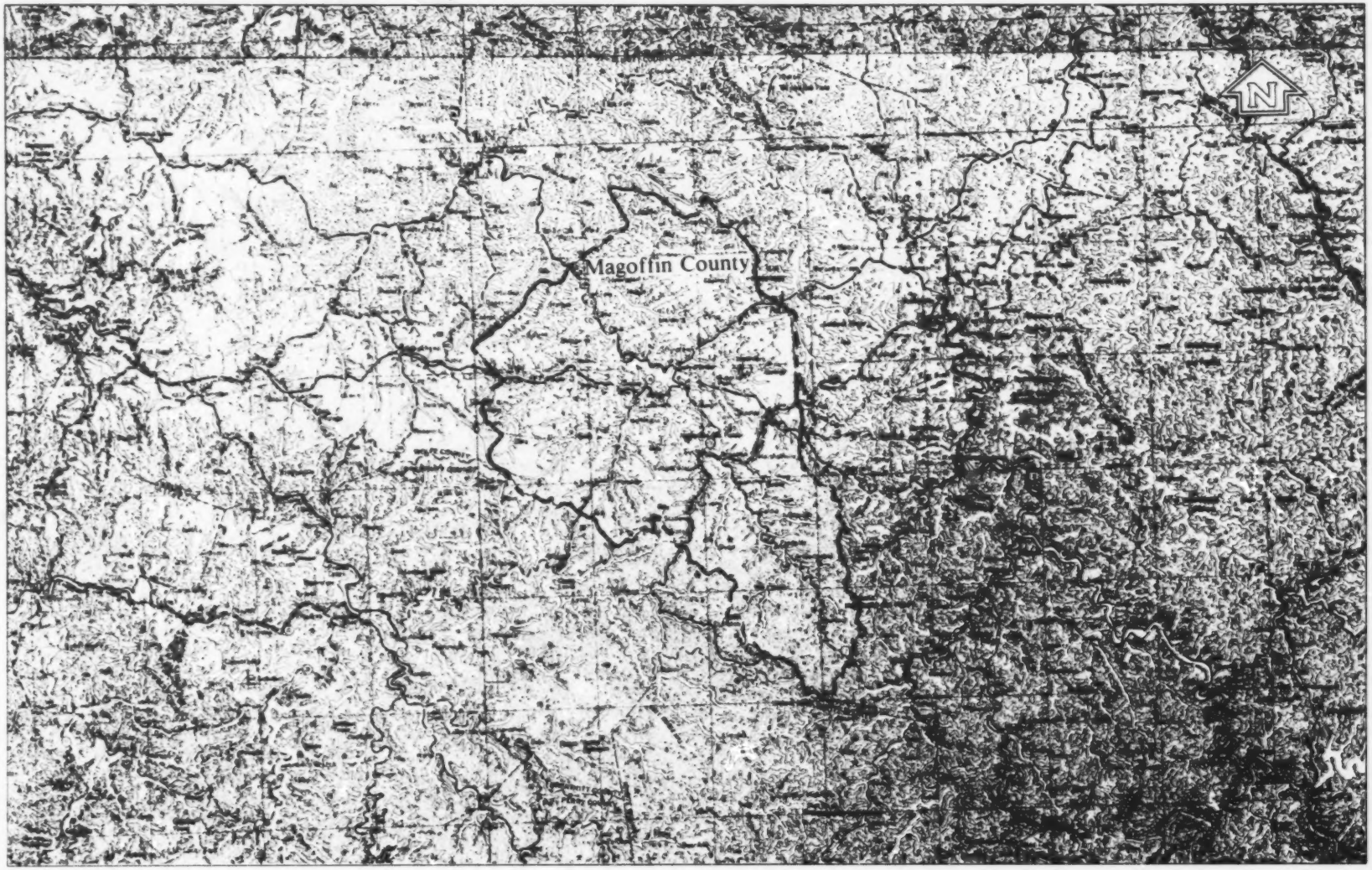

FIGURE 1

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY

(UNINCORPORATED AREAS)

APPROXIMATE SCALE

8 0 8 16 24 MILES

VICINITY MAP

2.3 Principal Flood Problems

Floods in the study reaches of the Licking River, State Road Fork, Mash Fork, and Burning Fork are a result of excessive headwater runoff. Flood damages in the vicinity have been experienced from the Licking River and its tributaries both individually and collectively. Significant recorded floods on the Licking River include the March 1962, March 1963, and December 1978 events.

No gaged data are available for State Road Fork, Mash Fork, or Burning Fork. Only a recent canvass for past flood marks and field inspections are available for these tributary model calibrations. A recent flood resulting primarily from tributary flow occurred in July 1981.

Projected flood heights for Magoffin County are shown in Figures 2, 3, and 4.

2.4 Flood Protection Measures

No flood protection structures exist within the study area. However, the COE is presently conducting a Reconnaissance Report evaluating potential flood protection alternatives.

3.0 ENGINEERING METHODS

For the flooding sources studied in detail in the community, standard hydrologic and hydraulic study methods were used to determine the flood hazard data required for this study. Flood events of a magnitude that are expected to be equaled or exceeded once on the average during any 10-, 50-, 100-, or 500-year period (recurrence interval) have been selected as having special significance for flood plain management and for flood insurance rates. These events, commonly termed the 10-, 50-, 100-, and 500-year floods, have a 10, 2, 1, and 0.2 percent chance, respectively, of being equaled or exceeded during any year. Although the recurrence interval represents the long-term average period between floods of a specific magnitude, rare floods could occur at short intervals or even within the same year. The risk of experiencing a rare flood increases when periods greater than 1 year are considered. For example, the risk of having a flood that equals or exceeds the 100-year flood (1 percent chance of annual exceedence) in any 50-year period is approximately 40 percent (4 in 10), and, for any 90-year period, the risk increases to approximately 60 percent (6 in 10). The analyses reported herein reflect flooding potentials based on conditions existing in the community at the time of completion of this study. Maps and flood elevations will be amended periodically to reflect future changes.

3.1 Hydrologic Analyses

Hydrologic analyses were carried out to establish the peak discharge-frequency relationships for each riverine flooding source studied in detail affecting the community.

The number of U.S. Geological Survey (USGS) gaging stations in the vicinity of Magoffin County is very limited. An indepth study of four available gages was made in accordance with Bulletin No. 17B (Reference 2). The Licking River gaging station near Salyersville, with 45 years of record (October 1938 through September 1983) and a drainage area of 140 square miles, was utilized as the base for all subsequent discharge evaluations. The Salyersville gage is located on the State Route 30 bridge at river mile 266.9.

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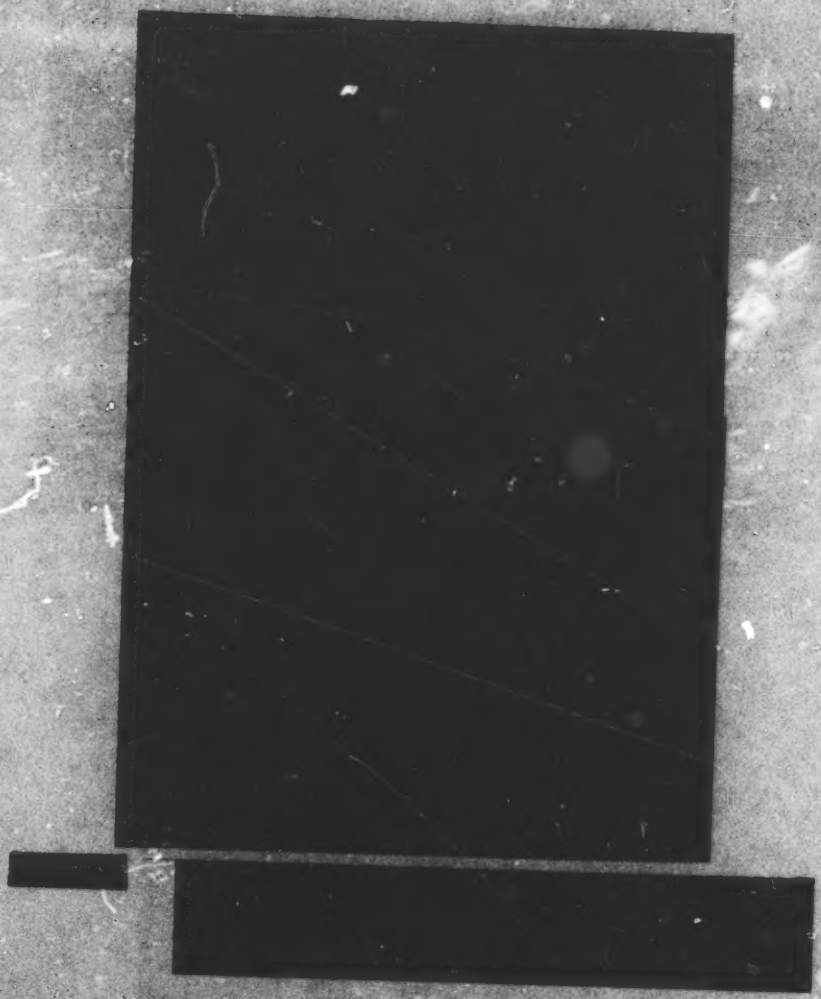

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Determination of the discharge versus exceedence probabilities considered omission of low and high outliers, weighting with generalized skew and historically adjusting the preliminary results where possible. Previous studies for adjacent areas, with similar runoff characteristics, were examined to assure reasonableness of the adopted values.

Additionally, discharge versus drainage area confirmation and hydrograph determination was accomplished through the HEC-1 Flood Hydrograph Package (Reference 3). The Licking River study area was divided into subbasins and routing reaches including the three tributary basins, State Road Fork, Burning Fork, and Mash Fork. The U.S. Department of Agriculture, Soil Conservation Service, curve number procedure was used to relate soil cover, land use, and antecedent moisture conditions to rainfall-runoff relationships (Reference 4). Observed flood hydrographs for the 1962 and 1978 floods at the Salyersville gaging station were reproduced to calibrate the HEC-1 model.

Technical Paper No. 40 (Reference 5) was used to assign selected frequency rainfall to the adopted unit hydrographs for both tributaries and pertinent sites along the Licking River. Resultant discharge hydrographs provided flow duration, peak timing, and frequency discharges for pertinent drainage area locations on the Licking River and the three tributary streams. The HEC-1 frequency discharges at the gage are in close agreement with the values determined in the aforementioned Bulletin No. 17B gage analysis. Tributary flows determined from the HEC-1 model are consistent with the regional analysis of the gaged data as well as a recent regional study for an adjacent area. The Licking River discharges represent HEC-1 model results with minor adjustments to match the gage analysis, since little or no adjustment was necessary to reproduce the regional study discharges.

Peak discharges for the 10-, 50-, 100-, and 500-year floods of each flooding source studied in detail in the community are shown in Table 1.

3.2 Hydraulic Analyses

Analyses of the hydraulic characteristics of flooding from the sources studied were carried out to provide estimates of the elevations of the floods of the selected recurrence intervals.

Cross sections were located at regular intervals along each stream and at significant changes in ground relief and land use or land cover. The overbank geometry was obtained by field measurements and supplemented by aerial topographic mapping (References 6 and 7). All bridges and culverts were field surveyed to obtain elevations and structural geometry.

Locations of selected cross sections used in the hydraulic analyses are shown on the Flood Profiles. For stream segments for which a floodway was computed (Section 4.2), selected cross-section locations are also shown on the Flood Boundary and Floodway Map.

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TABLE 1 - SUMMARY OF DISCHARGES

FLOODING SOURCE AND LOCATION	DRAINAGE AREA SQ MILES	PEAK DISCHARGES (CFS) 10-YEAR	50-YEAR	100-YEAR	500-YEAR
LICKING RIVER					
Just downstream of the confluence of Middle Fork	194.70	9,400	14,300	16,900	23,200
Just upstream of the confluence of Middle Fork	147.00	8,780	13,600	15,900	21,800
At USGS gaging station	140.00	8,560	13,200	15,400	21,200
Just upstream of the confluence of State Road Fork	126.00	7,800	12,300	14,300	19,800
Just upstream of the confluence of Burning Fork	108.00	7,000	11,000	12,900	17,800
Just upstream of the confluence of Stinson Creek	99.20	6,600	10,300	12,100	16,900
STATE ROAD FORK					
At mouth	12.90	1,940	2,900	3,440	4,740
Just upstream of the confluence of Mash Fork	5.88	1,120	1,690	2,000	2,740
Just upstream of the confluence of Bear Branch	3.30	750	1,150	1,330	1,830
MASH FORK					
At mouth	5.59	1,080	1,620	1,920	2,580
BURNING FORK					
At mouth	18.00	2,010	3,080	3,670	5,020

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Roughness factors (Manning's "n") were determined by field inspection and the use of historic flood profile data. Roughness coefficients developed for this report are shown below.

Stream	Manning's "n" Channel	Overbank
Licking River	0.040 - 0.050	0.045 - 0.080
State Road Fork	0.050	0.060
Mash Fork	0.050	0.055
Burning Fork	0.050 - 0.055	0.050 - 0.060

Water-surface profiles were developed using the HEC-2 step-backwater computer model (Reference 8).

A range of frequency discharges was input to the model and the resulting discharge versus stage relationships matched the current USGS rating table at the Salyersville gaging station. USGS gaged data and high water mark investigations confirm channel capacity changes from the early 1960s to late 1970s. The December 1978 flood event was selected to be most representative of existing floodwater conveyance and was given more weight when calibrating the HEC-2 model (Reference 8).

Starting water-surface elevations for Burning Fork and State Road Fork were based on coincident peak analysis verified by the hydrograph timing obtained from the HEC-1 model as being representative of existing conditions. Starting water-surface elevations for the Licking River and Mash Fork were calculated using the slope-area method.

Flood profiles were drawn showing the computed water-surface elevations for floods of the selected recurrence intervals. In cases where the 50- and 100-year flood elevations are close together, due to limitations of the profile scale, only the 100-year profile has been drawn.

The hydraulic analyses for this study are based only on the effects of unobstructed flow. The flood elevations shown on the profiles are, thus, considered valid only if hydraulic structures remain unobstructed, operate properly, and do not fail.

All elevations are referenced to the National Geodetic Vertical Datum of 1929. Elevation reference marks used in this study are shown on the maps.

4.0 FLOOD PLAIN MANAGEMENT APPLICATIONS

The National Flood Insurance Program encourages state and local governments to adopt sound flood plain management programs. Therefore, each Flood Insurance Study produces maps designed to assist communities in developing flood plain management measures.

4.1 Flood Boundaries

To provide a national standard without regional discrimination, the 1 percent annual chance (100-year) flood has been adopted by FEMA as the base flood for flood plain management purposes. The 0.2 percent annual chance (500-year) flood is employed to indicate additional areas of flood risk

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in the community. For each stream studied in detail, the 100- and 500-year flood plain boundaries have been delineated using the flood elevations determined at each cross section. Between cross sections, the boundaries were interpolated using topographic maps at a scale of 1:2400 with a contour interval of 4 feet (References 6 and 7).

For the streams studied by approximate methods, only the 100-year flood plain boundary was delineated using the previously published Flood Hazard Boundary Map (Reference 9).

The 100- and 500-year flood plain boundaries are shown on the Flood Boundary and Floodway Map. In cases where the 100- and 500-year flood plain boundaries are close together, only the 100-year flood plain boundary has been shown. Small areas within the flood plain boundaries may lie above the flood elevations but cannot be shown due to limitations of the map scale and/or lack of detailed topographic data.

4.2 Floodways

Encroachment on flood plains, such as structures and fill, reduces the flood-carrying capacity, increases the flood heights and velocities, and increases flood hazards in areas beyond the encroachment itself. One aspect of flood plain management involves balancing the economic gain from flood plain development against the resulting increase in flood hazard. For purposes of the National Flood Insurance Program, a floodway is used as a tool to assist local communities in this aspect of flood plain management. Under this concept, the area of the 100-year flood plain is divided into a floodway and a floodway fringe. The floodway is the channel of a stream plus any adjacent flood plain areas that must be kept free of encroachment so that the 100-year flood can be carried without substantial increases in flood heights. Minimum Federal standards limit such increases to 1.0 foot, provided that hazardous velocities are not produced.

The floodways presented in this study were computed on the basis of equal conveyance reduction from each side of the flood plain. The results of these computations were tabulated at selected cross sections for each stream segment for which a floodway was computed and are presented in Table 2, Floodway Data.

As shown on the Flood Boundary and Floodway Map, the floodway boundaries were computed at cross sections. Between cross sections, the boundaries were interpolated. In cases where the boundaries of the floodway and the 100-year flood are either close together or collinear, only the floodway boundary has been shown.

The area between the floodway and the 100-year flood plain boundaries is termed the floodway fringe. The floodway fringe thus encompasses the portion of the flood plain that could be completely obstructed without increasing the water-surface elevation of the 100-year flood more than 1.0 foot at any point. Typical relationships between the floodway and the floodway fringe and their significance to flood plain development are shown in Figure 5.

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
LICKING RIVER								
A	262.310	265	4215	4.0	842.9	842.9	843.9	1.0
B	262.703	366	6023	2.8	843.8	843.8	844.8	1.0
C	262.972	472	7025	2.4	844.0	844.0	845.0	1.0
D	263.957	342	4357	3.6	845.1	845.1	846.1	1.0
E	264.279	386	5115	3.1	845.8	845.8	846.8	1.0
F	264.551	398	5802	2.7	846.2	846.2	847.2	1.0
G	265.200	551	7309	2.2	846.8	846.8	847.8	1.0
H	265.550	647	7221	2.2	847.0	847.0	848.0	1.0
I	265.800	424	4284	3.7	847.3	847.3	848.3	1.0
J	266.103	525	5630	2.8	848.0	848.0	849.0	1.0
K	266.700	344	3825	4.2	849.0	849.0	849.9	0.9
L	266.931	238	3162	4.9	850.3	850.3	851.2	0.9
M	267.378	831	9261	1.7	851.0	851.0	852.0	1.0
N	267.560	877	11,980	1.3	851.1	851.1	852.1	1.0
O	267.829	1209	15,319	1.0	851.2	851.2	852.2	1.0
P	267.950	990	13,008	1.2	851.2	851.2	852.2	1.0
Q	268.400	424	5448	2.8	851.3	851.3	852.3	1.0
R	268.562	560	5816	2.6	851.7	851.7	852.7	1.0
S	271.588	308	3442	3.7	861.1	861.1	862.1	1.0
T	272.044	284	3422	3.8	863.0	863.0	864.0	1.0
U	272.710	634	5060	2.5	864.5	864.5	865.5	1.0
V	273.420	594	4650	2.8	866.2	866.2	867.1	0.9
W	273.590	450	3498	3.7	866.7	866.7	867.6	0.9
X	274.044	324	2893	4.5	868.7	868.7	869.6	0.9
Y	274.400	281	2500	4.8	870.4	870.4	871.3	0.9
Z	274.877	328	3271	3.7	872.8	872.8	873.8	1.0

[1]MILES ABOVE MOUTH

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TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY

(UNINCORPORATED AREAS)

FLOODWAY DATA

LICKING RIVER

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FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
BURNING FORK								
A	0.760	265	2007	1.3	858.8	858.8	859.8	1.0
B	0.897	187	1411	2.6	859.1	859.1	860.1	1.0
C	1.126	78	700	5.0	860.4	860.4	861.1	0.7
D	1.300	139	1134	3.1	861.5	861.5	862.4	0.9
E	1.532	338	2509	1.4	862.1	862.1	863.1	1.0
F	1.842	158	1123	3.1	863.0	863.0	863.9	0.9
G	2.014	112	825	4.2	864.0	864.0	864.9	0.9
STATE ROAD FORK								
A	0.789	239	1270	2.7	856.4	856.4	857.4	1.0
B	0.900	127	821	4.2	857.2	857.2	858.1	0.9
C	1.109	125	811	4.2	859.3	859.3	860.1	0.8
D	1.344	127	755	2.6	862.4	862.4	863.3	0.9
E	1.480	159	794	2.5	863.1	863.1	864.0	0.9
F	1.585	110	497	4.0	863.8	863.8	864.6	0.8
G	1.720	119	556	3.6	865.7	865.7	866.6	0.9
H	2.020	84	510	3.9	868.9	868.9	869.9	1.0
I	2.130	62	451	4.4	870.0	870.0	871.0	1.0
J	2.440	50	367	5.5	876.1	876.1	877.0	0.9
K	2.670	95	480	4.2	880.0	880.0	880.8	0.8
L	3.015	57	312	4.3	885.2	885.2	885.9	0.7

[1]MILES ABOVE MOUTH

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY

(UNINCORPORATED AREAS)

FLOODWAY DATA

BURNING FORK—STATE ROAD FORK

FLOODING SOURCE		FLOODWAY			BASE FLOOD WATER SURFACE ELEVATION			
CROSS SECTION	DISTANCE[1]	WIDTH (FEET)	SECTION AREA (SQ. FEET)	MEAN VELOCITY (FEET/SEC.)	REGULATORY (FEET NGVD)	WITHOUT FLOODWAY (FEET NGVD)	WITH FLOODWAY (FEET NGVD)	INCREASE (FEET)
MASH FORK								
A	0.042	252	885	2.2	860.2	857.7[2]	858.7	1.0
B	0.275	128	591	3.2	860.2	859.4[2]	860.4	1.0
C	0.432	101	461	4.2	861.2	861.2	862.2	1.0
D	0.470	99	409	4.7	862.2	862.2	863.2	1.0
E	0.569	105	411	4.7	864.6	864.6	865.6	1.0

[1]MILES ABOVE MOUTH
[2]ELEVATIONS WITHOUT CONSIDERING BACKWATER EFFECT FROM STATE ROAD FORK

TABLE 2

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY
(UNINCORPORATED AREAS)

FLOODWAY DATA

MASH FORK

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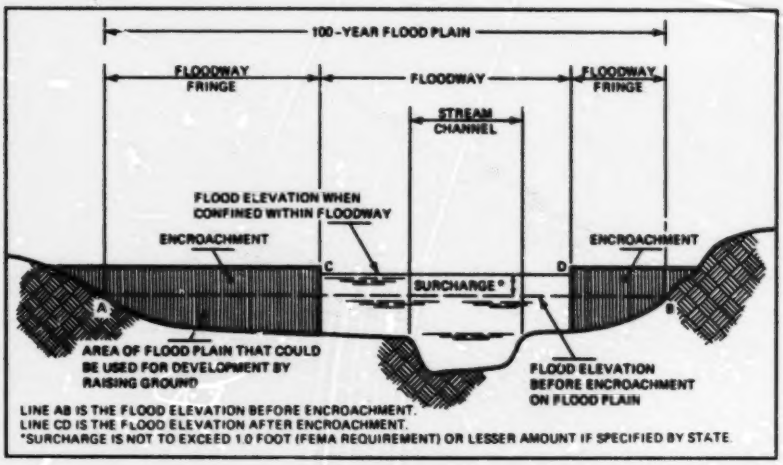
100-YEAR FLOOD PLAIN
FLOODWAY FRINGE
FLOODWAY
FLOODWAY FRINGE
STREAM CHANNEL
FLOOD ELEVATION WHEN CONFINED WITHIN FLOODWAY
ENCROACHMENT
ENCROACHMENT
C
D
SURCHARGE*
A
B
AREA OF FLOOD PLAIN THAT COULD BE USED FOR DEVELOPMENT BY RAISING GROUND
FLOOD ELEVATION BEFORE ENCROACHMENT ON FLOOD PLAIN
LINE AB IS THE FLOOD ELEVATION BEFORE ENCROACHMENT.
LINE CD IS THE FLOOD ELEVATION AFTER ENCROACHMENT.
*SURCHARGE IS NOT TO EXCEED 1.0 FOOT (FEMA REQUIREMENT) OR LESSER AMOUNT IF SPECIFIED BY STATE.

FIGURE 5 - Floodway Schematic

The floodways in this study are presented to local agencies as minimum standards that can be adopted directly or that can be used as a basis for additional floodway studies.

5.0 INSURANCE APPLICATION

To establish actuarial insurance rates, data from the engineering study must be transformed into flood insurance criteria. This process includes the determination of reaches, Flood Hazard Factors, and flood insurance zone designations for each flooding source studied in detail affecting Magoffin County.

5.1 Reach Determinations

Reaches are defined as sections of flood plain that have relatively the same flood hazard, based on the weighted average difference in water-surface elevations between the 10- and 100-year floods. This difference may not have a variation greater than that indicated in the following table for more than 20 percent of the reach:

Average Difference Between 10- and 100-year Floods	Variation
Less than 2 feet	0.5 foot
2 to 7 feet	1.0 foot
7.1 to 12 feet	2.0 feet
More than 12 feet	3.0 feet

The locations of the reaches determined for the riverine flooding sources of Magoffin County are shown on the Flood Profiles and are summarized in Table 3, Flood Insurance Zone Data.

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5.2 Flood Hazard Factors

The Flood Hazard Factor (FHF) is used to establish relationships between depth and frequency of flooding in any reach. This relationship is then used with depth-damage relationships for various classes of structures to establish actuarial insurance rate tables.

The FHF for a riverine reach is the weighted average difference between the 10- and 100-year flood water-surface elevations rounded to the nearest 0.5 foot, multiplied by 10, and shown as a 3-digit code. For example, if the difference between elevations is 0.7 foot, the FHF is 005; if the difference is 1.4 feet, the FHF is 015; if the difference is 5.0 feet, the FHF is 050. When the difference is greater than 10.0 feet, it is rounded to the nearest whole foot.

5.3 Flood Insurance Zones

Flood insurance zones and zone numbers are assigned based on the type of flood hazard and the FHF, respectively. A unique zone number is associated with each possible FHF and varies from 1 for a FHF of 005 to a maximum of 30 for a FHF of 200 or greater.

Zone A:	Special Flood Hazard Areas inundated by the 100-year flood, determined by approximate methods; no base flood elevations are shown or FHFs determined.
Zones A2, A3, A5-A7, A9:	Special Flood Hazard Areas inundated by the 100-year flood, with base flood elevations shown, and zones subdivided according to FHFs.
Zone B:	Areas between the Special Flood Hazard Areas and the limits of the 500-year flood; areas that are protected from the 100- and 500-year floods by dike, levee, or other water control structure; areas subject to certain types of 100-year shallow flooding where depths are less than 1.0 foot; and, areas subject to 100-year flooding from sources with drainage areas less than 1 square mile. Zone B is not subdivided.
Zone C:	Areas of minimal flooding; not subdivided.

Flood elevation differences, FHFs, flood insurance zones, and base flood elevations for the flooding source studied in detail in the community are shown in Table 3, Flood Insurance Zone Data.

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FLOODING SOURCE	PANEL[1]	ELEVATION DIFFERENCE[2] BETWEEN 1.0% (100-YEAR) FLOOD AND			FLOOD HAZARD FACTOR	ZONE	BASE FLOOD ELEVATION[3] (FEET NGVD)
		10% (10-YEAR)	2% (50-YEAR)	0.2% (500-YEAR)			
LICKING RIVER							
REACH 1	0035,0045,0055, 0065	−4.6	−1.5	3.1	045	A9	VARIES—SEE MAP
REACH 2	0065	−3.4	−1.1	2.6	035	A7	VARIES—SEE MAP
REACH 3	0065	−2.7	−0.8	2.1	025	A5	VARIES—SEE MAP
BURNING FORK							
REACH 1	0065	−3.4	−1.1	2.5	035	A7	VARIES—SEE MAP
REACH 2	0065	−2.5	−0.9	1.8	025	A5	VARIES—SEE MAP
STATE ROAD FORK							
REACH 1	0065	−2.8	−0.9	2.2	030	A6	VARIES—SEE MAP
REACH 2	0055,0065	−1.4	−0.4	0.9	015	A3	VARIES—SEE MAP
MASH FORK							
REACH 1	0055,0065	−0.8	−0.3	0.5	010	A2	VARIES—SEE MAP

[1]FLOOD INSURANCE RATE MAP PANEL
[2]WEIGHTED AVERAGE
[3]ROUNDED TO NEAREST FOOT

TABLE 3

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY
(UNINCORPORATED AREAS)

FLOOD INSURANCE ZONE DATA

LICKING RIVER—BURNING FORK—STATE ROAD FORK—MASH FORK

5.4 Flood Insurance Rate Map Description

The Flood Insurance Rate Map for Magoffin County is, for insurance purposes, the principal product of the Flood Insurance Study. This map contains the official delineation of flood insurance zones and base flood elevation lines. Base flood elevation lines for riverine flooding sources show the locations of the expected whole-foot water-surface elevations of the base (100-year) flood. The base flood elevations and zone numbers are used by insurance agents, in conjunction with structure elevations and characteristics, to assign actuarial insurance rates to structures and contents insured under the National Flood Insurance Program.

6.0 OTHER STUDIES

The COE, Louisville District, issued an "Interim Survey Report, Upper Licking River Basin," a "Feasibility Report, Licking River Basin," and a "Reconnaissance Report Section 205" (References 10, 11, and 12). Other reports by consulting firms include a "Feasibility Study, Salyersville CUT-THRU Project" and the "Magoffin County Community Flood Damage Abatement Study" (References 13 and 14). This study on Magoffin County is compatible with or supersedes all of the above-mentioned studies.

A Flood Insurance Study is being prepared for the City of Salyersville, Magoffin County, Kentucky (Reference 15). The results of this study agree with the results of the Magoffin County study.

Due to its more detailed analysis, this Flood Insurance Study supersedes the previously printed Flood Hazard Boundary Map for Magoffin County (Reference 9).

7.0 LOCATION OF DATA

Information concerning the pertinent data used in the preparation of this study can be obtained by contacting the Natural and Technological Hazards Division, Federal Emergency Management Agency, 1371 Peachtree Street, N.E., Suite 736, Atlanta, Georgia 30309.

8.0 REFERENCES AND BIBLIOGRAPHY

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5. U.S. Department of Commerce, Weather Bureau, Technical Paper No. 40, Rainfall Frequency Atlas of the United States, Washington, D.C., January 1963.

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9. U.S. Department of Housing and Urban Development, Federal Insurance Administration, Flood Hazard Boundary Map, Magoffin County, Unincorporated Areas, Kentucky, August 1977.

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12. ———, Reconnaissance Report Section 205, 1948 FCA, Licking River, Salyersville, Kentucky, 1977.

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14. Mays, Sudderth & Etheredge, Inc., Magoffin County Community Flood Damage Abatement Study, Lexington, Kentucky, 1977.

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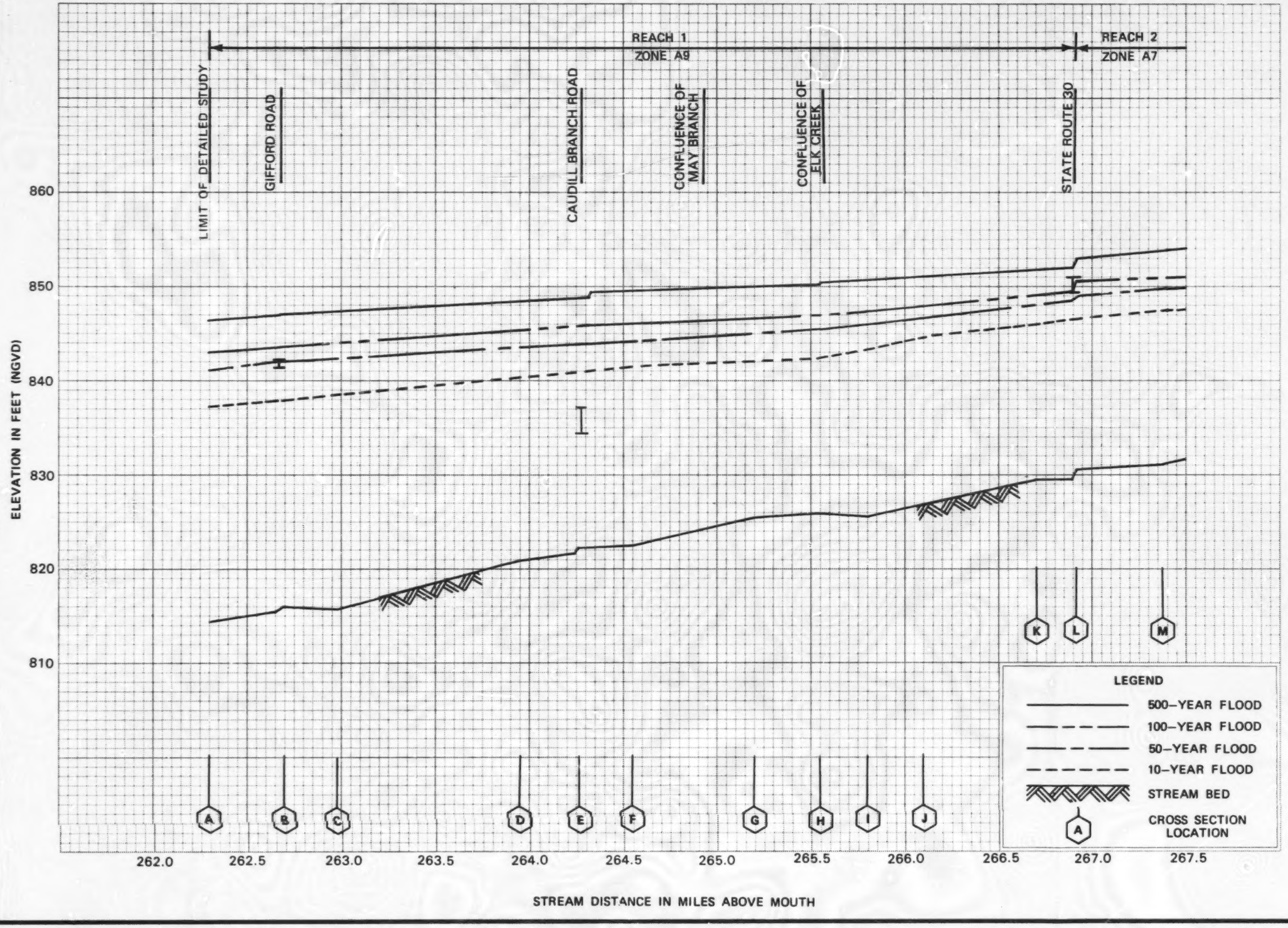

FLOOD PROFILES

LICKING RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY
(UNINCORPORATED AREAS)

01P

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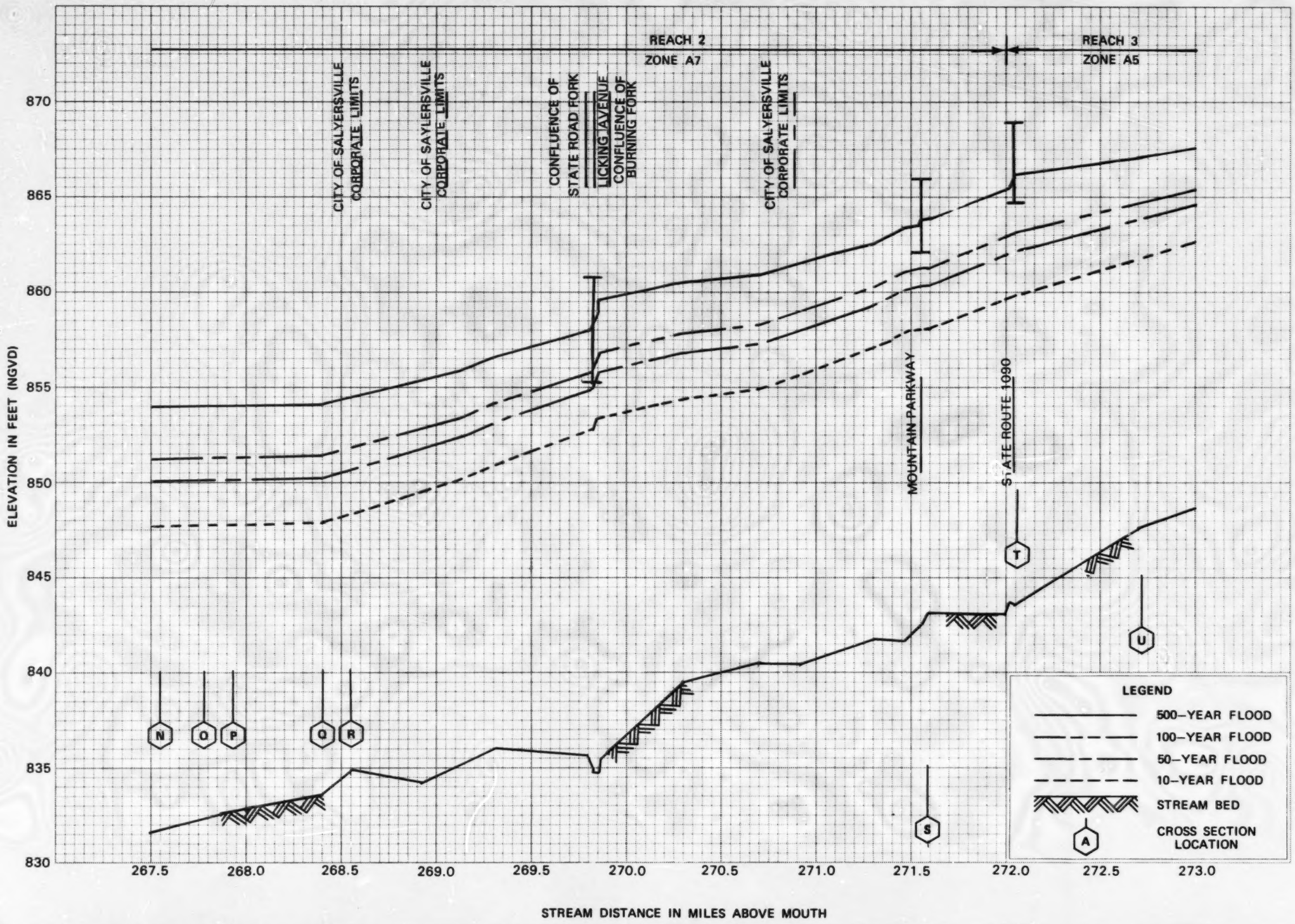

STREAM DISTANCE IN MILES ABOVE MOUTH

FLOOD PROFILES

LICKING RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY

(UNINCORPORATED AREAS)

02P

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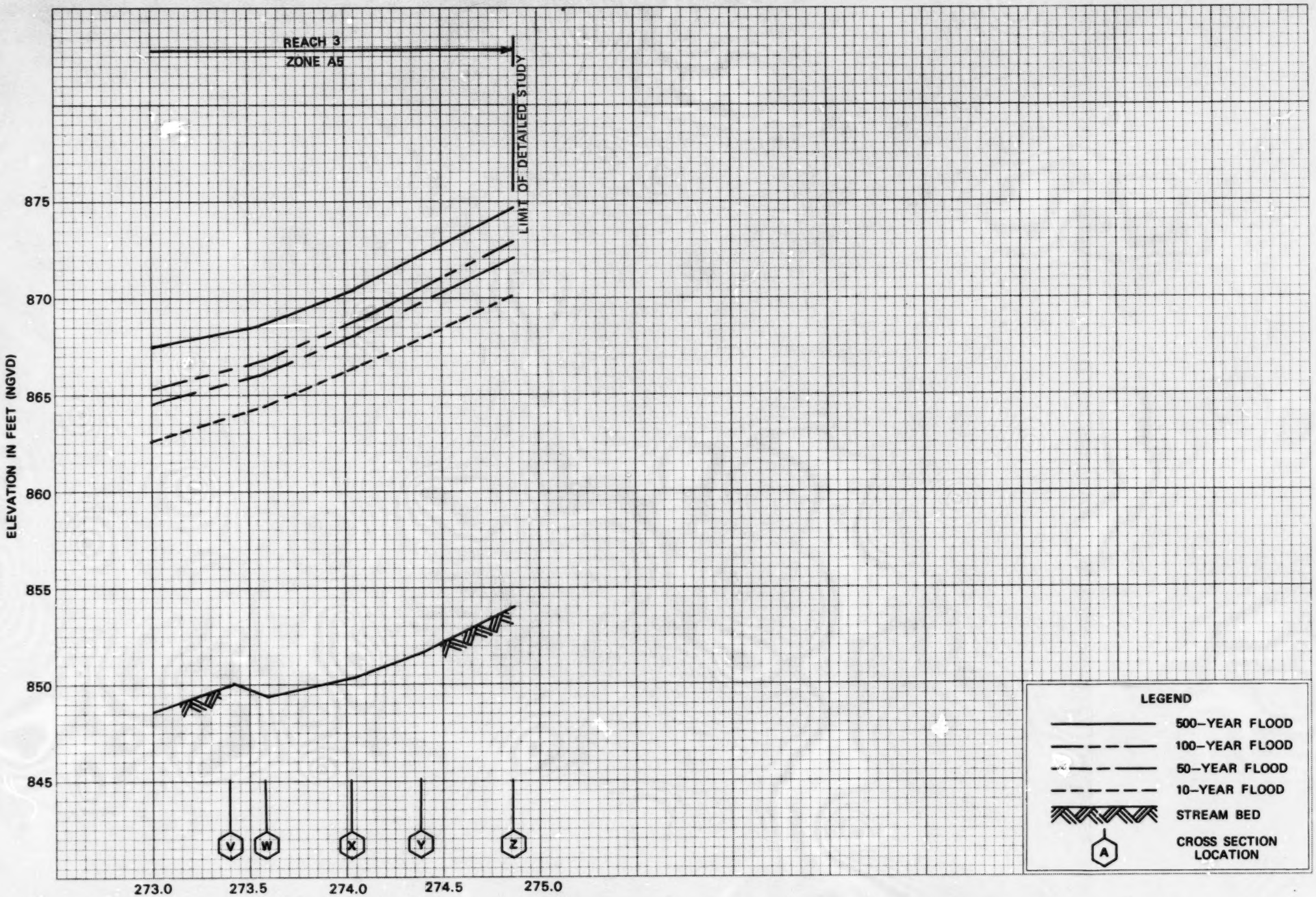

FLOOD PROFILES

LICKING RIVER

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY
(UNINCORPORATED AREAS)

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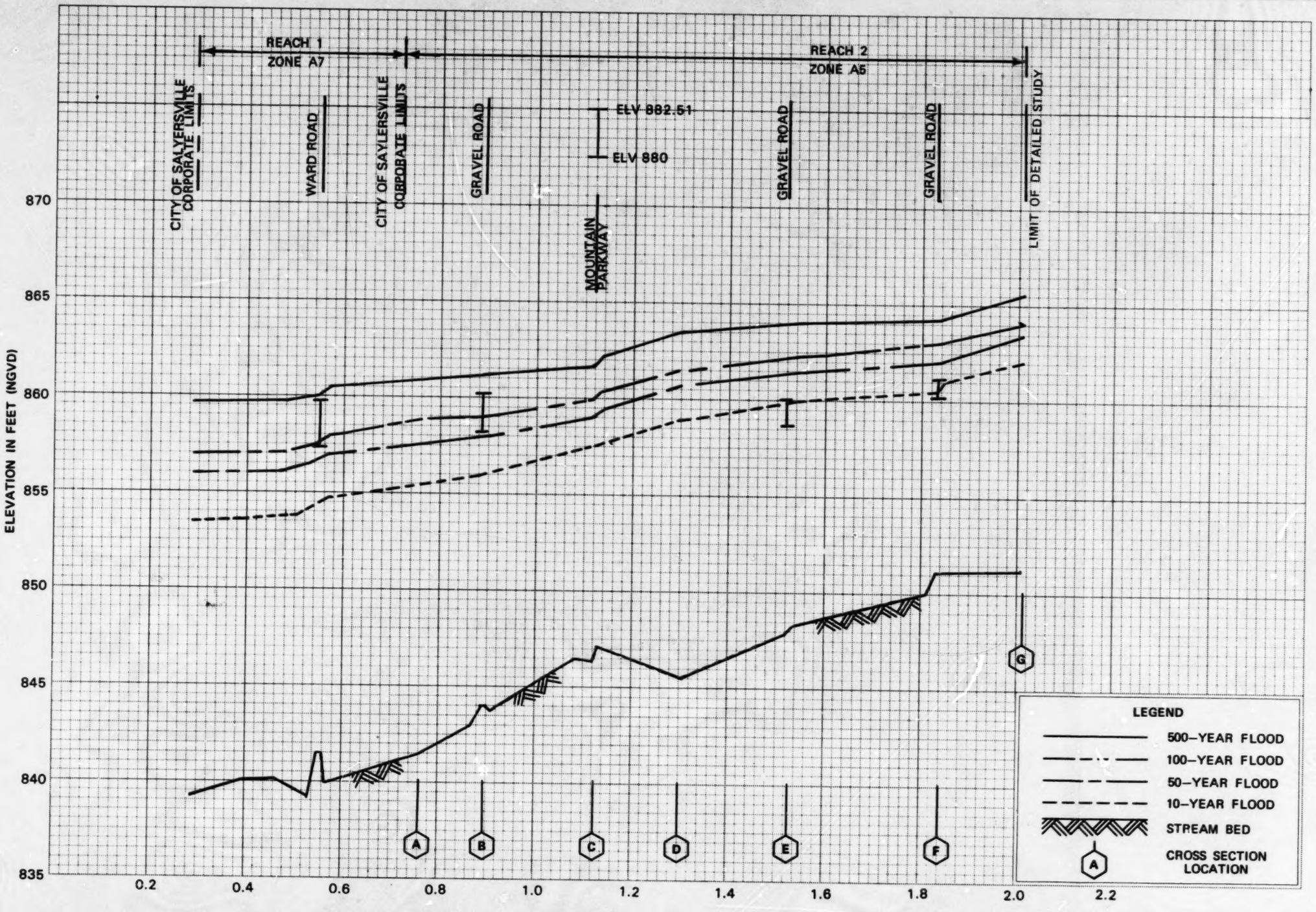

FLOOD PROFILES

BURNING FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY
(UNINCORPORATED AREAS)

04P

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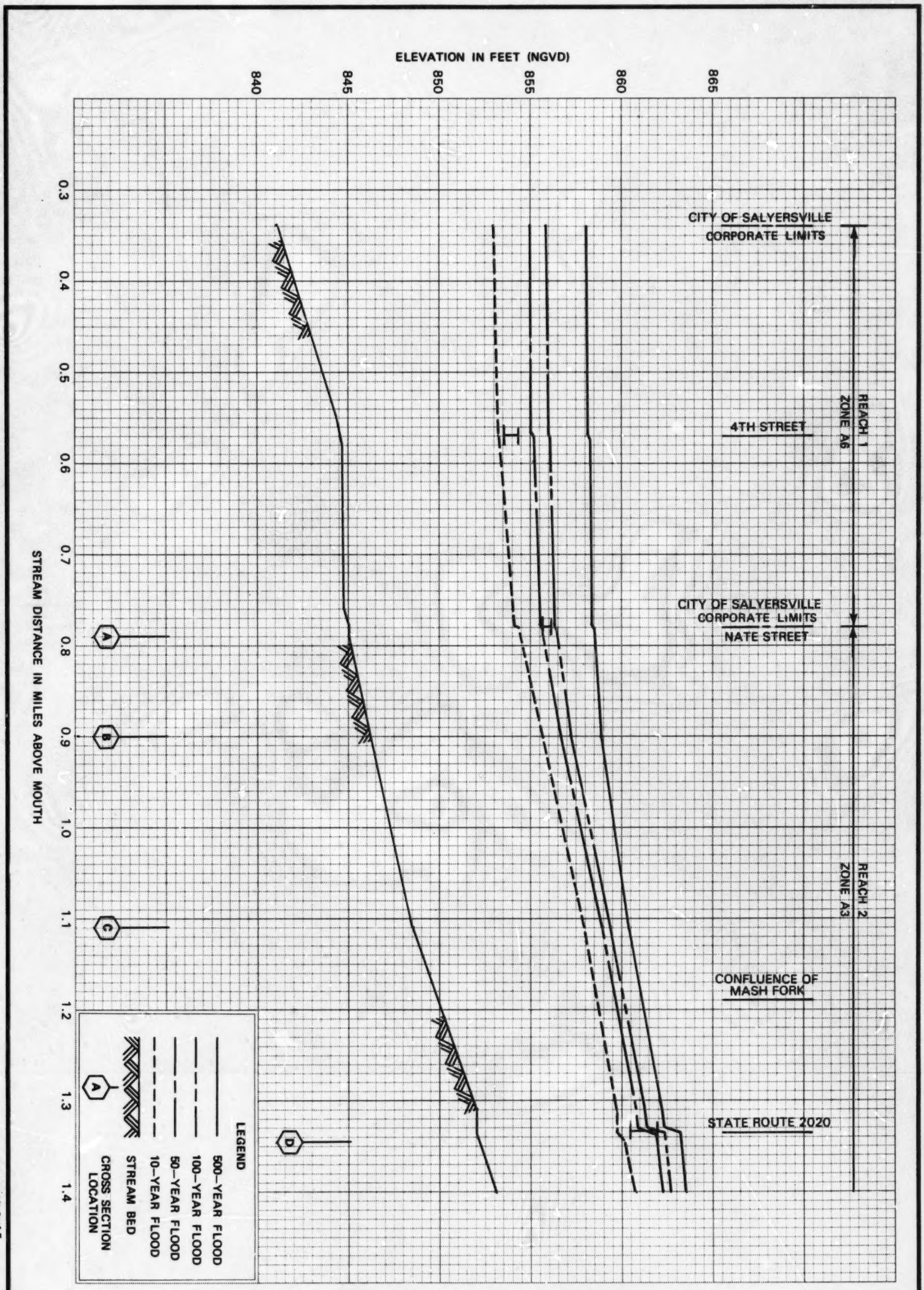

05P	FEDERAL EMERGENCY MANAGEMENT AGENCY **MAGOFFIN COUNTY, KY** (UNINCORPORATED AREAS)	**FLOOD PROFILES** **STATE ROAD FORK**

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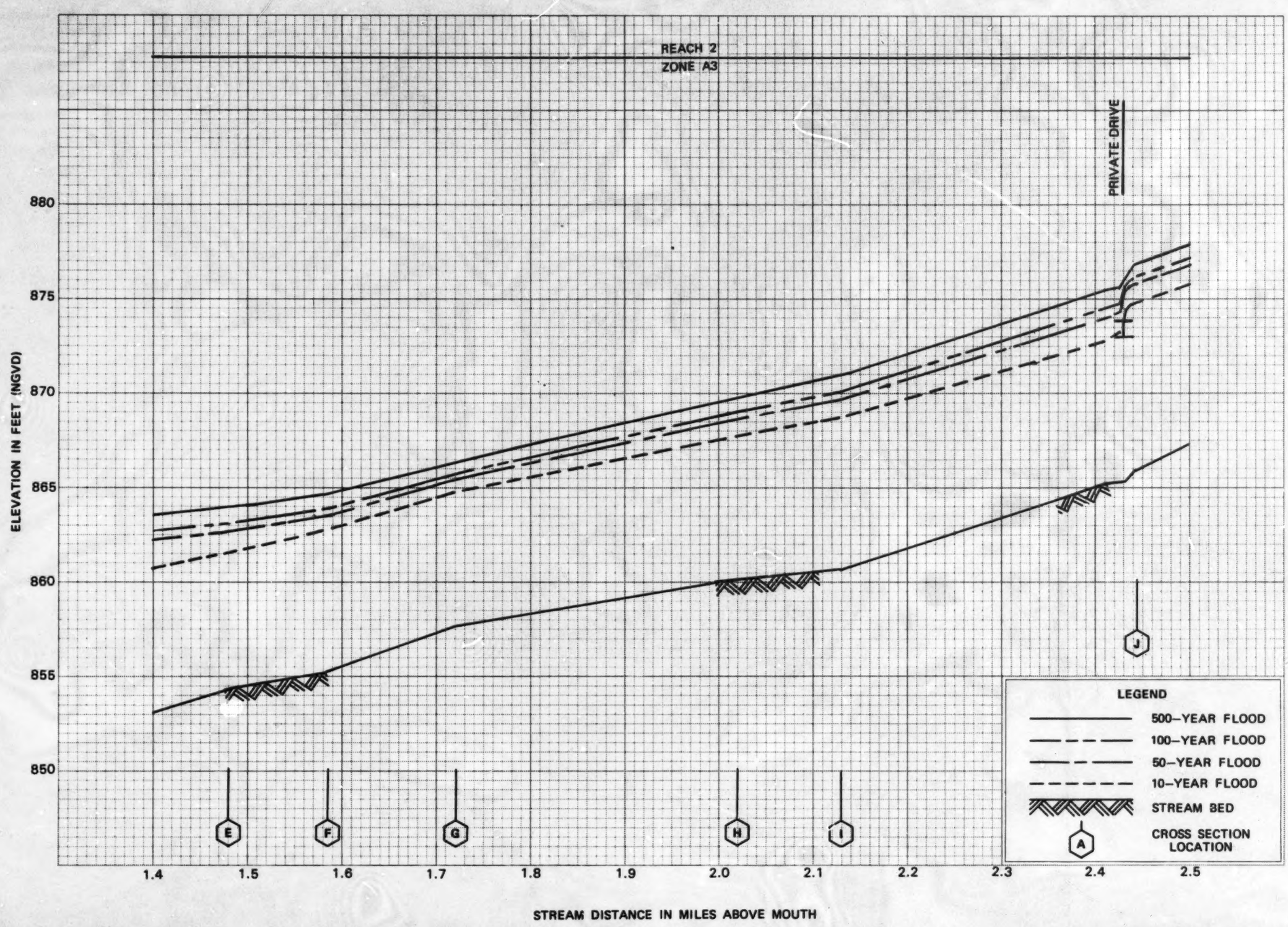

FLOOD PROFILES

STATE ROAD FORK

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY

(UNINCORPORATED AREAS)

06P

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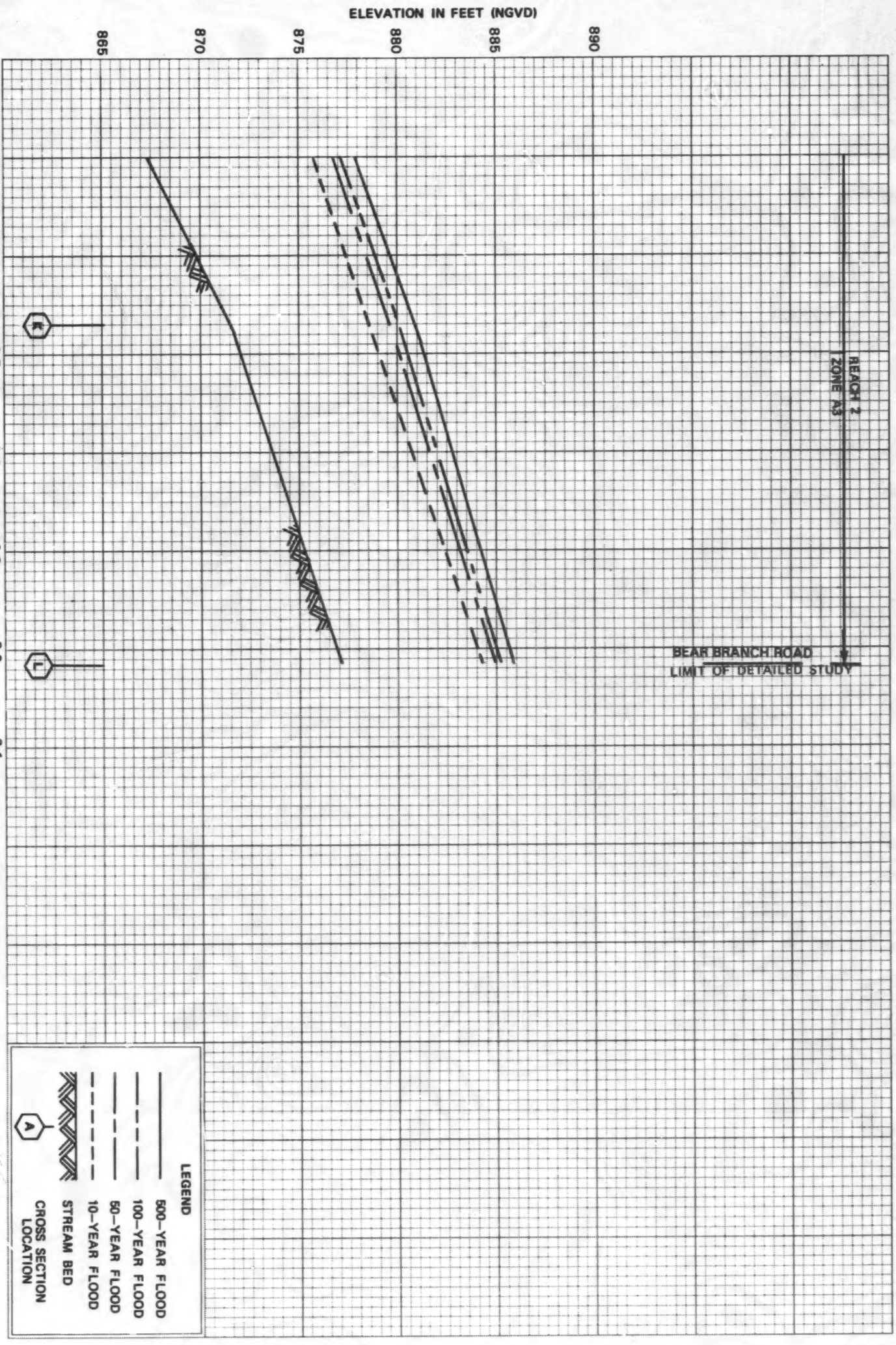

FEDERAL EMERGENCY MANAGEMENT AGENCY

MAGOFFIN COUNTY, KY

(UNINCORPORATED AREAS)

FLOOD PROFILES

STATE ROAD FORK

07P

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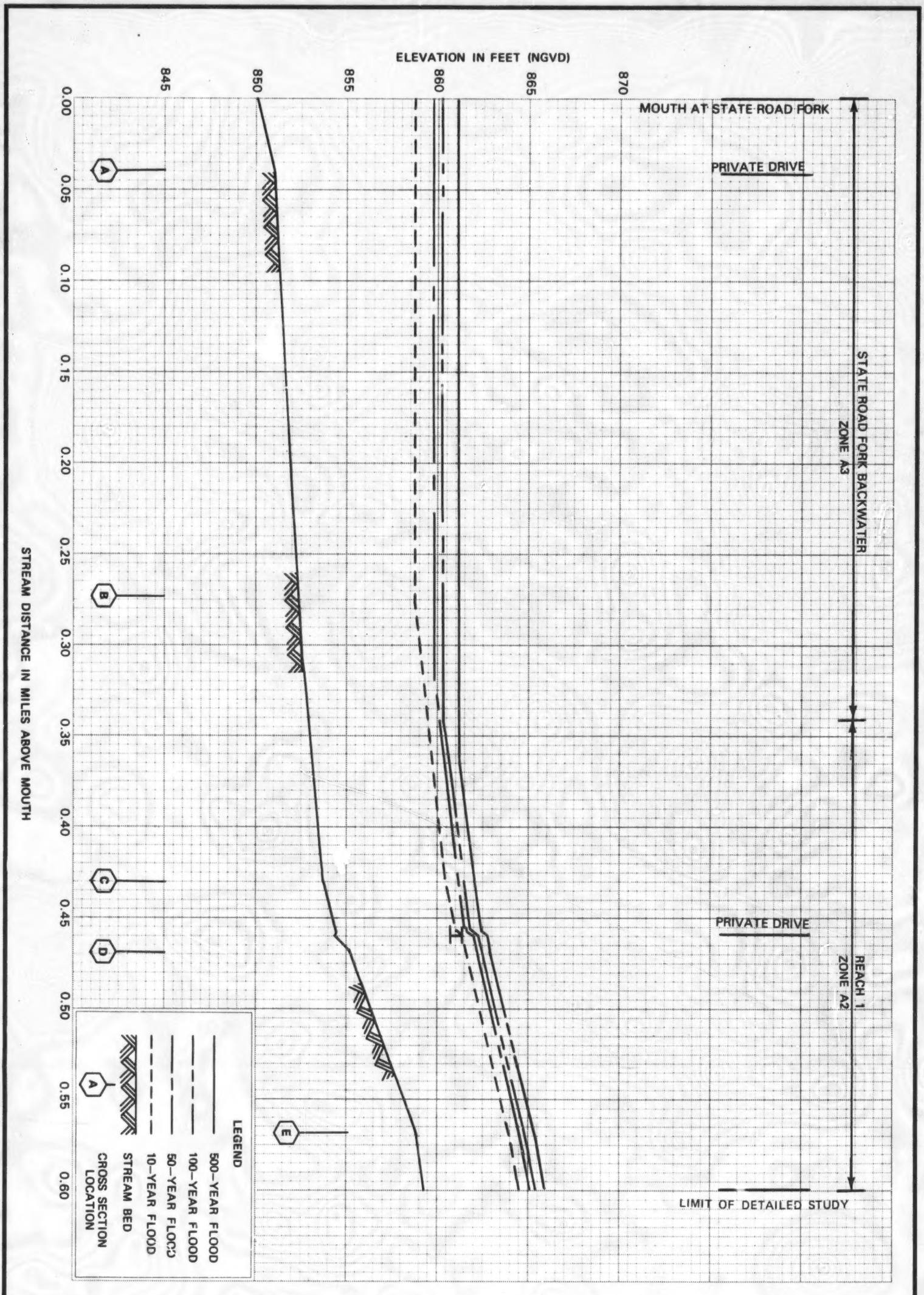

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